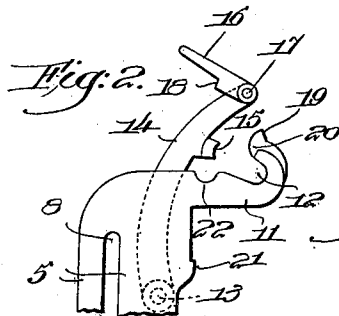
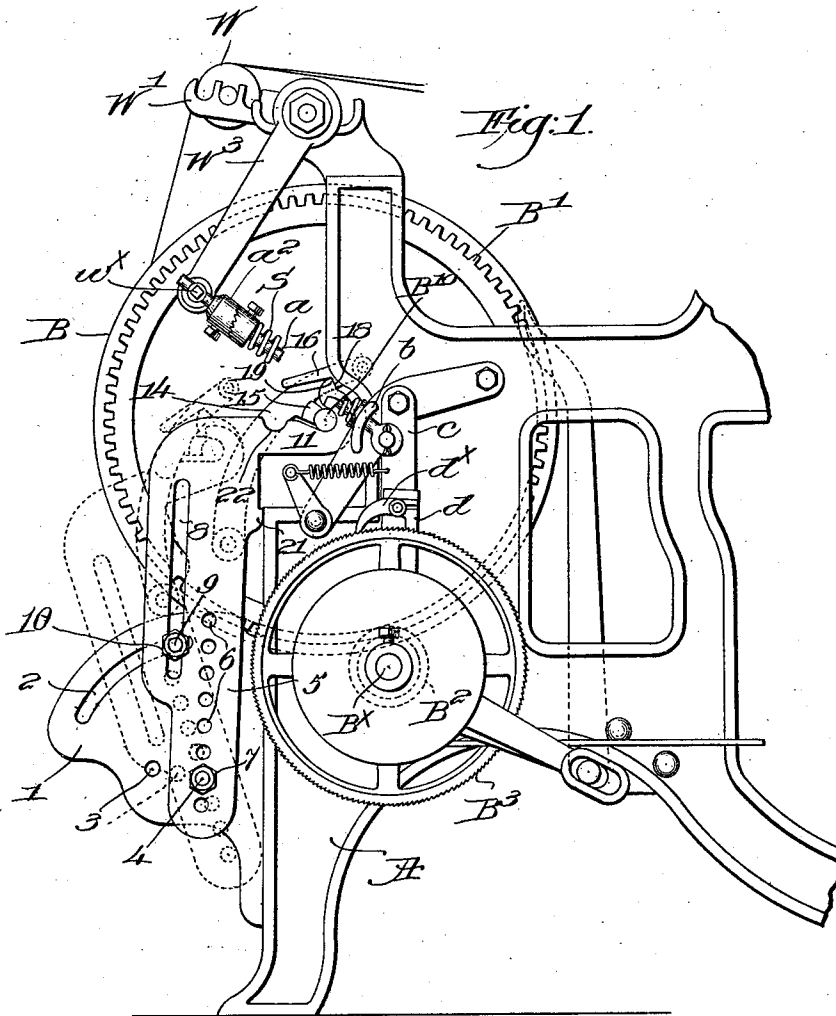


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SUPPORTING MEANS FOR LOOM BEAMS.
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UNITED STATES PATENT OFFICE.

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SUPPORTING MEANS FOR LOOM-BEAMS.

1,013,443.

Specification of Letters Patent.

Patented Jan. 2, 1912.

Application filed March 16, 1911. Serial No. 614,756.

To all whom it may concern:

Be it known that I, ALONZO E. RHOADES, a citizen of the United States, and resident of Hopedale, county of Worcester, State of Massachusetts, have invented an Improvement in Supporting Means for Loom-Beams, of which the following description, in connection with the accompanying drawing, is a specification, like characters on the drawing representing like parts.

This invention has for its object the production of novel, simple and readily adjustable means for supporting the warp-beam in a loom so that beams having heads of various diameters can be used and properly positioned with relation to the let-off mechanism so that the latter will properly control the rotation of the beam.

By the means forming the subject of my present invention the bearings for the journals for the warp-beam can be adjusted up or down, forward or back, or by a combination of such adjustments, and then clamped fixedly in the position desired, so that with very little trouble and delay the beam can be properly positioned with relation to the let-off mechanism or other parts of the loom structure.

As will appear hereinafter the beam supporting means is so constructed and arranged that when it is unclamped the movement of the beam into or out of operative position can be facilitated by making use of the angular or swinging motion of the bearing arms.

The novel features of my invention will be fully described in the subjoined specification and particularly pointed out in the following claims.

Figure 1 is a side elevation of a portion of a loom with one embodiment of my present invention applied thereto, two positions of the bearing members or arms being shown by full and dotted lines, respectively; Fig. 2 is a detail in side elevation of the upper end of one of the arms, showing the bearing and the device for locking the beam-journal therein.

Referring to Fig. 1 the warp-beam B having an attached ring-gear B' to mesh with a pinion B² on the driving shaft B*; the whip-roll W mounted in rocking arms W', one of which has an attached arm W² provided with a rocking stud w* to which is

secured rod a having a collar a² fast upon it; the ear b through which said rod passes loosely, the compression spring S, the members c, d of the compound pawl-carrier, the let-off pawl d*, and the ratchet B³ with which it coöperates, are all substantially as shown in United States patent to Roper, No. 744,941 dated November 24, 1903.

Instead of providing a bearing or seat on each loom side A I provide at the back of each loom side an upright, rigid stand 1, either integral therewith or bolted thereto, as may be most convenient, each stand having a segmental slot 2 near its curved upper edge, and a series of circular apertures 3 near its lower end, three of such apertures being provided herein, see Fig. 1, at different distances from the back of the loom side. Any one of these apertures is adapted to receive a bolt 4 which constitutes a fulcrum or pivot-connection for an upright arm 5 having a longitudinal series of apertures 6, any one of which is adapted to receive the bolt or pin 4, a nut 7 screwed onto the latter preventing accidental disconnection of an arm from its stand. Said arm is provided with a longitudinal slot 8 which crosses the slot 2 in the stand, a clamping device, shown as a bolt 9 and nut 10, serving to clamp the arm in any desired angular position on its stand, the bolt passing through the crossed slots.

Obviously the vertical adjustment of the arm is effected by utilizing one or the other of the apertures 6 for the reception of the pivot or fulcrum member 4, and by setting the latter in one or the other of the apertures 3 the fulcrum for the arm will be changed in a fore and aft direction, but no matter what the adjustment of the fulcrum may be the arm may be clamped in any desired angular position.

At its upper end the arm 5 is turned frontward at 11 and provided with an open and partly circular seat or bearing 12, best shown in Fig. 2, for one of the journals B¹⁰ of the beam, see Fig. 1. When the beam-journals are seated in these bearings the gear B' will properly mesh with the pinion B² if the bearing arms 5 have been properly adjusted, the range of adjustment herein provided being so wide that practically any size of beam-head can be accommodated and the beam will always be controlled properly by the let-off mechanism.

In order to lock the beam-journals in their bearings I pivot on the inner side of each arm 5, as at 13, a carrier 14 having a concaved closure or cap 15 for the bearing 12, the operative position of the cap being shown in Fig. 1, wherein it rests upon the beam-journal B¹⁰ and retains it in the bearing 12.

The carrier is then locked in its operative position by a locking dog 16 pivoted at 17 on said carrier and provided with a locking face 18, Fig. 2, to engage the face 19 of an abutment 20 on the upper side of the bearing 12. This locking device is substantially the same as I have shown in my prior Patent No. 981,944 granted January 17, 1911, and while it is a very convenient and efficient device for locking the beam-journal in its bearing any other suitable form of locking device may be used if desired.

When a beam is to be taken from the loom the arms 5 can be unclamped and swung rearward and downward on their fulcras 4 to deposit the beam on a truck or on the floor, and in that case the journals would not be unlocked or released from the bearings until the beam had been deposited. In the same manner the swinging movement of the bearing arms 5 will facilitate the placing of a beam in the loom, if desired, obviating the direct lifting of the beam up to its bearings, and when in proper position the arms 5 are clamped to the stands 1.

A stop 21 on the front edge of each arm 5 is adapted to abut against the rear upright face of the loom side A when the bearings are in their extreme forward position, see full lines, Fig. 1, so that no additional movement forward is permissible, but the vertical position of the bearings can be changed, as will be apparent, by means of the pivot-members 4.

An open pocket or seat 22 on each of the heads 11 serves as a temporary support for the beam journals when changing beams if it is preferred not to unclamp the arms 5, as above described.

It will be understood that the carriers 14 can be swung rearward and downward away from the upper ends of the bearing arms and completely out of the way when changing beams.

Referring to Fig. 1 the arm 5 in full lines is shown with the pivot member 4 in the second aperture 6 from the bottom of the series, while in dotted lines the arm is shown as lowered by inserting the said pivot member in the fourth aperture from the bottom of the arm, merely to show more clearly the mode of adjustment.

By a combination of the fore and aft and up and down adjustment of the arms on their fulcrum-stands 1, with the various angular positions of the arms on said stands,

it will be readily understood that the range of adjustment for the bearings 12 is very wide, and will provide for practically any contingency which could arise in connection with the warp-beam.

Various changes or modifications in details of construction and arrangement may be made by those skilled in the art without departing from the spirit and scope of my invention as set forth in the claims hereto annexed.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In a loom, beam-supporting means comprising a segmentally slotted fulcrum-stand on each loom side, an upturned, longitudinally slotted arm fulcrumed on each stand and provided with a bearing for one of the journals of the warp-beam, the slots of a stand and the arm adjacent thereto crossing each other, a clamping bolt extended through the slots, to clamp the arm in angularly adjusted position on its stand, and a fulcrum-pin adapted to cooperate with the bearing arm at different points in the direction of its length.

2. In a loom, beam-supporting means comprising a stand on each loom side, an upturned arm adjacent each stand and provided with a bearing for one of the journals of the warp-beam, a pivot-connection between a stand and its arm, adapted to cooperate with said members at any one of several points on each, and means to clamp a bearing arm in desired angular position on its stand irrespective of the location of the pivot-connection.

3. In a loom, a warp-beam having an attached gear, a let-off pinion adapted to mesh with said gear and govern rotation of the beam, a swinging arm at each side of the loom, provided with a bearing for one of the journals of the beam, a fulcrum-member adapted to cooperate with each bearing arm at any one of a plurality of points, and means to clamp the arm in adjusted angular position with relation to its fulcrum-member, to provide for beams of different diameters.

4. In a loom, beam-supporting means comprising a stand on each loom side, provided with a plurality of apertures, an upturned arm having a bearing for one of the journals of the warp-beam, said arm having a longitudinal row of apertures, a fulcrum-pin adapted to pass through an aperture in the stand and one of the apertures in the adjacent arm, to pivotally connect said parts, and means to clamp the arm on the stand in adjusted angular position.

5. In a loom, a warp-beam having an attached gear, a let-off pinion adapted to mesh with said gear and govern rotation of the beam, a swinging arm at each side of the loom, provided with a bearing for one of

the journals of the beam, a fulcrum-member pivotally connecting a bearing arm and its stand, said member being adjustable fore and aft on the stand and longitudinally of the arm, and means to clamp the arm on its stand in adjusted angular position irrespective of the adjusted position of the fulcrum-member.

6. In a loom, beam-supporting means including upturned arms fulcrumed at each loom side, and having bearings for the journals of the warp-beam, adjustable fulcrum for

said arms, means to clamp the arms in desired angular position with relation to their fulcrum, and means on each arm to lock the beam-journal in its bearing. 15

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses.

ALONZO E. RHOADES.

Witnesses:

ROBERT JAMISON,
E. W. WYND.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."